To: Stan Kaczmarek[StanK@demaximis.com]
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From: Vaughn, Stephanie
Sent: Tue 12/10/2013 9:28:25 PM
Subject: RM 10.9, active cap layer....

Hi Stan,

We are still reviewing the modified active layer of the cap that has been placed in the river, and may have additional comments. In the meantime, however, I want to share the following. These comments are based on the technical memos submitted on December 3, 5, and 9 2013, as well as the final cap design and the memo from Dr. Danny Reible dated June 2, 2013:

· The active cap design and model calculations are based on a certain carbon mass in the cap. The 3-inch thick cap is derived based on AquaGate having a density of 80# per cubic feet to arrive at a certain carbon mass in the cap. If the AquaGate has only 72 lb per cubic feet, then the carbon mass in the AquaGate is correspondingly reduced. Even though we may meet the 3-inch thick requirement, we have not met the intent of the design (to achieve the carbon mass).

· Regarding the total carbon analysis, without collecting a control sample (i.e., a sample of 30% Aquagate and 70% sand mixture from a bucket) as the baseline, we cannot tell if any carbon is lost during placement. This control sample was requested by EPA and discussed with the CPG. Please explain why it was not analyzed.

· The CPG has performed a calculation showing a 30 v% Aquagate mixture should have 2.6% of carbon and a 25 v% Aquagate mixture should have 2.1% of carbon. The carbon results from the 5 core samples range from 1.7% to 2.3 %. Two of the 5 core samples did not meet the minimum requirement of 2.1% and the average of the 5 core samples do not meet the average requirement of 2.6%.

· Based on the carbon analysis, it appears that the quantity of carbon in the Aquagate/sand mixture does not meet the design requirements of 2.6%. Therefore, the cap may not meet the stated design life of 250+ years. At a minimum, the CPG will need to recalculate the design life of the cap based on the actual sample results to see if it meets the design criteria.

Given all this uncertainty, we are still evaluating whether it makes sense to place the armor layer at this time. As stated above, the design life of the cap will need to be recalculated and a robust post-cap placement monitoring plan must be put in place to assure that this interim remedy remains protective until a final remedy is put in place.

We can discuss further tomorrow.

Thanks,
Stephanie